

Name: _____

at1118paper: Complete the Square (v408)

Example

By completing the square, find both solutions to the given equation:

$$x^2 - 44x = -468$$

Add $\left(\frac{-44}{2}\right)^2$, which equals 484, to both sides of the equation.

$$x^2 - 44x + 484 = 16$$

Factor the left side.

$$(x - 22)^2 = 16$$

Undo the squaring. We need to consider both $\pm\sqrt{16}$.

$$\begin{aligned} x - 22 &= -4 \\ x &= -26 \end{aligned}$$

or
or

$$\begin{aligned} x - 22 &= 4 \\ x &= -18 \end{aligned}$$

Question 1

By completing the square, find both solutions to the given equation:

$$x^2 - 6x = 775$$

Question 2

By completing the square, find both solutions to the given equation:

$$x^2 - 46x = 2175$$

Question 3

By completing the square, find both solutions to the given equation:

$$x^2 - 48x = 1188$$

Question 4

By completing the square, find both solutions to the given equation:

$$x^2 + 42x = -425$$

Question 5

By completing the square, find both solutions to the given equation:

$$x^2 - 28x = -192$$

Question 6

By completing the square, find both solutions to the given equation:

$$x^2 - 56x = -703$$